

**REMARKS**

Applicant thanks Examiner Dung X. Nguyen and Examiner Kenneth N. Vanderpuye for the in-person interview on September 27, 2005, regarding the above-identified patent application. The substance of this interview is set forth in Applicant's remarks below.

Applicant notes with appreciation the Office's indication that claims 56, 57, 59, and 60 are allowable over the cited prior art and claims 3, 4, 7, 10, 11, 13, 14, 17, 20, 21, 23, 25, 27, 33, 37, 41, 43, 44, 47, 49, 50, 54, 71, 72, 74, 75, 76, 78, 81, 82, 83, 86, 87, 89, 90, 91, 93, 94, 96, 97, and 98 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant respectfully requests clarification regarding the status of claims 26, 29, 46, 49, 50, 64, 66, and 67. More specifically: claims 26, 66, and 67 have not been rejected and their status has not been addressed in the outstanding Office Action; claims 49 and 50 are listed as being allowable and also as being rejected; claims 29 and 64 are not listed in the citation of claims as being rejected, however are listed in the Office's basis for rejection; and claim 46 is listed as being rejected under 35 U.S.C. 102(b) and 35 U.S.C. 103(a), but the Office has only provided a basis for the rejection under 35 U.S.C. 103(a). In view of the following remarks, reconsideration of the outstanding office action is respectfully requested.

The Office has rejected claims 1, 2, 5, 6, 8, 9, 12, 15, 16, 18, 19, 22, 24, 28, 31, 32, 34, 35, 38, 39, 42, 45, 46, 48, 49, 50 - 53, 55, 58, 61, 63 65, 68 - 70, 73, 77, 79, 80, 84, 85, 88, 92, and 95 are rejected under 35 U.S.C. § 102(b) as being anticipated by US Patent No. Re. 30,468 to Dolby et al. (Dolby), claims 30, 36, 40, and 46 under 35 U.S.C. § 103(a) as being unpatentable over Dolby and claim 62 under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 6,879,716 to Ishibashi (Ishibashi), in view of Dolby.

The Office asserts Dolby discloses in figure 18: a transmission system, which applies one of a plurality of time scales and one of a plurality of time delays to one of a pair of substantially matched base signals, combines the time scaled and time delayed base signal with the other one of the pair of base signals to form a doublet (col. 5, lines 20 - 29 and col. 3, lines 44 - 55), and transmit the doublet (col. 2, lines 59 - 63); and a receiving system (col. 14, lines 22 and 23), which receives the doublet and inherently extracts information from the doublet (col. 4, lines 62 - 66) based on one of the plurality of time scales and the one of the plurality of time delays which were applied. The Office also asserts Dolby discloses: a transmission system, which applies one of a plurality of time scales to one of a pair of

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substantially matched base signals, combines the time scaled with the other one of the pair of base signals to form a doublet (col. 5, lines 20 - 29 and col. 3, lines 44 - 55), and transmit the doublet (col. 2, lines 59 - 63); and a receiving system (col. 14, lines 22 and 23), which receives the doublet and inherently extracts information from the doublet (col. 4, lines 62 - 66) based on one of the plurality of time scales which was applied. Additionally, the Office asserts Dolby et al. discloses: in figure 18 an encoding system, which applies one of a plurality of time scales to one of a pair of substantially matched base signals; a combiner, which combines the time scaled base signal with the other one of the pair of base signals to form a doublet; and a transmitter, which transmits the doublet with the information. Further, the Office asserts Dolby discloses: in figure 18 a receiver, which receives a doublet, wherein the doublet comprises a combined pair of substantially matched base signals and wherein one of a plurality of time scales was applied to at least one of the pair of substantially matched base signals; and a processing system, which inherently extracts information from the doublet based on the one of the plurality of time scales, which was applied to the doublet prior to transmission. Further, the Office asserts that Ishibashi discloses in figure 2 receiving a doublet (col. 1, lines 45 - 58) contained in a composite signal (col. 2, line 66) and extracting information from the composite signal based on one of a time scale which was applied to the doublets. The Office acknowledges that Ishibashi does not show a plurality of time scales which was applied to each of the doublets, but asserts that Dolby discloses in figure 18 inherently extracting information based on one of a plurality of time scales which was applied to the doublet.

Neither Dolby nor Ishibashi, alone or in combination, disclose or suggest, “a transmission system which applies one of a plurality of time scales and one of a plurality of time delays to one of a pair of substantially matched base signals” as recited in claim 1, “applying one of a plurality of time scales and one of a plurality of time delays to one of a pair of substantially matched base signals” as recited in claim 12, “a transmission system which applies one of a plurality of time scales to one of a pair of substantially matched base signals, combines the time scaled base signal with the other one of the pair of base signals to form a doublet, and transmits the doublet” as recited in claim 22, “applying one of a plurality of time scales to one of a pair of substantially matched base signals . . . combining the time scaled base signal with the other one of the pair of base signals to form a doublet” as recited in claim 32, “an encoding system which applies one of a plurality of time scales to one of a pair of substantially matched base signals . . . a combiner which combines the time scaled

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base signal with the other one of the pair of base signals to form a doublet” as recited in claim 42, “applying one of a plurality of time scales to one of a pair of substantially matched base signals . . . combining the time scaled with the other one of the pair of base signals to form a doublet with the information” as recited in claim 48, “wherein the doublet comprises a combined pair of substantially matched base signals and wherein one of a plurality of time scales was applied to at least one of the pair of substantially matched base signals” as recited in claim 55, “receiving a doublet, wherein the doublet comprises a combined pair of substantially matched base signals and wherein one of a plurality of time scales was applied to at least one of the pair of substantially matched base signals” as recited in claim 61, “” as recited in claim 62, “extracting information from the composite signal based on one of a plurality of time scales which was applied to each of the doublets” as recited in claim 65, “extracting information from one of the pair of substantially matched base signals in the doublet based on one of a plurality of time scales which was applied to the doublet” as recited in claim 68, “a transmission system embeds communication information by applying one of a plurality of time scales and one of a plurality of time delays to one of a pair of substantially matched base signals, combines the time scaled and time delayed base signal with the other one of the pair of base signals to form a doublet, and transmits the doublet” as recited in claim 69, “applying one of a plurality of time scales and one of a plurality of time delays to one of a pair of substantially matched base signals to embed communication information” as recited in claim 77, “a transmission system which applies one of a plurality of time scales and one of a plurality of time delays to one of a pair of substantially matched base signals, combines the time scaled and time delayed base signal with the other one of the pair of base signals to form a doublet, and transmits the doublet into an environment which embeds imaging information in the doublet” as recited in claim 84, or “applying one of a plurality of time scales and one of a plurality of time delays to one of a pair of substantially matched base signals . . . combining the time scaled and time delayed base signal with the other one of the pair of base signals to form a doublet” as recited in claim 92.

As the Office has acknowledged, Ishibashi does not teach or suggest applying one of a plurality of time scales to at least one of a pair of substantially matched base signals. However, contrary to the Office’s assertions, Dolby does not teach or suggest applying one of a plurality of time scales to at least one of a pair of substantially matched base signals. The Office’s attention is respectfully directed to col. 5, lines 20 - 29 in Dolby which states, “the essential characteristic of the further path 12 is that it shall contribute a boosting (compressor

action) or bucking (expander action) signal which has a significant effect such as +10 dB or -10dB for low amplitude signal, but which is so limited above a low threshold.” Accordingly, Dolby is disclosing either amplifying or reducing the strength of the further path, however there is no disclosure or suggestion of any time scaling in Dolby.

Additionally, the Office’s attention is respectfully directed to col. 3, lines 44 – 55 in Dolby which states, “The action of the invention will be confined to higher frequency components, such components typically including the major noise component required to be reduced by complementary compressor and expander action.” Accordingly, Dolby is disclosing the reduction of noise in higher frequencies through the use of complementary, i.e. opposite, signal which again is adjusted to the appropriate, but opposite signal strength with the compressor or expander action. However, again, there is no disclosure or suggestion of any time scaling.

Further, Dolby does not disclose or suggest forming a doublet. Instead, as set forth at col. 6, lines 54-57, Dolby creates a comb filter, not a doublet

In sharp contrast, with the present invention, as disclosed at page 9, lines 7-9 in the above-identified patent application, “One of the unique aspects of this modulation/demodulation technique is due to its offset parameters being differential time-delay and differential time-scale.” Additionally, as disclosed at page 9, line 29 to page 10, line 3, “The present invention’s added parameter of time-scale offset is easy and efficient to implement, and it adds a whole new dimension for embedding/extracting information and maintaining signal security. The time-scale offset also enables controllable spatial resolution for enhanced performance in extracting environmental information. By simultaneously employing multiple time-scale offsets in the same transmission, the system can simultaneously achieve extreme robustness and high resolution in range, angles and velocity.”

Accordingly, in view of the foregoing remarks, the Office is respectfully requested to reconsider and withdraw the rejection of claims 1, 12, 22, 32, 42, 48, 55, 61, 62, 65, 68, 69, 77, 84, and 92. Since claims 2, 5, 6, 8, and 9 depend from and contain the limitations of claim 1, claims 15, 16, 18, and 19 depend from and contain the limitations of claim 12, claims 24, 26, and 28-31 depend from and contain the limitations of claim 22, claims 34-36 and 38-40 depend from and contain the limitations of claim 32, claims 45 and 46 depend from and contain the limitations of claim 42, claims 51-53 depend from and contain the limitations of claim 48, claim 58 depends from and contains the limitations of

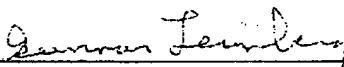
claim 55, claims 63 and 64 depend from and contain the limitations of claim 61, 70 and 73 depend from and contain the limitations of claim 69, claims 79 and 80 depend from and contain the limitations of claim 77, claims 85 and 88 depend from and contain the limitations of claim 84, and claim 95 depends from and contains the limitations of claim 92, they are distinguishable over the cited references and patentable in the same manner as claims 1, 12, 22, 32, 42, 48, 55, 61, 69, 77, 84, and 92.

The Office has objected to claims 3, 4, 7, 10, 11, 13, 14, 17, 20, 21, 23, 25, 27, 33, 37, 41, 43, 44, 47, 49, 50, 54, 71, 72, 74, 75, 76, 78, 81, 82, 83, 86, 87, 89, 90, 91, 93, 94, 96, 97, and 98 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In view of the foregoing remarks with respect to the independent claims from which these claims depend, these claims are now believed to be in condition for allowance and no further amendment is believed to be necessary. Accordingly, the Office is respectfully requested to reconsider and withdraw this objection.

In view of all of the foregoing, applicant submits that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

Date: September 29, 2005

  
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September 29, 2005  
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